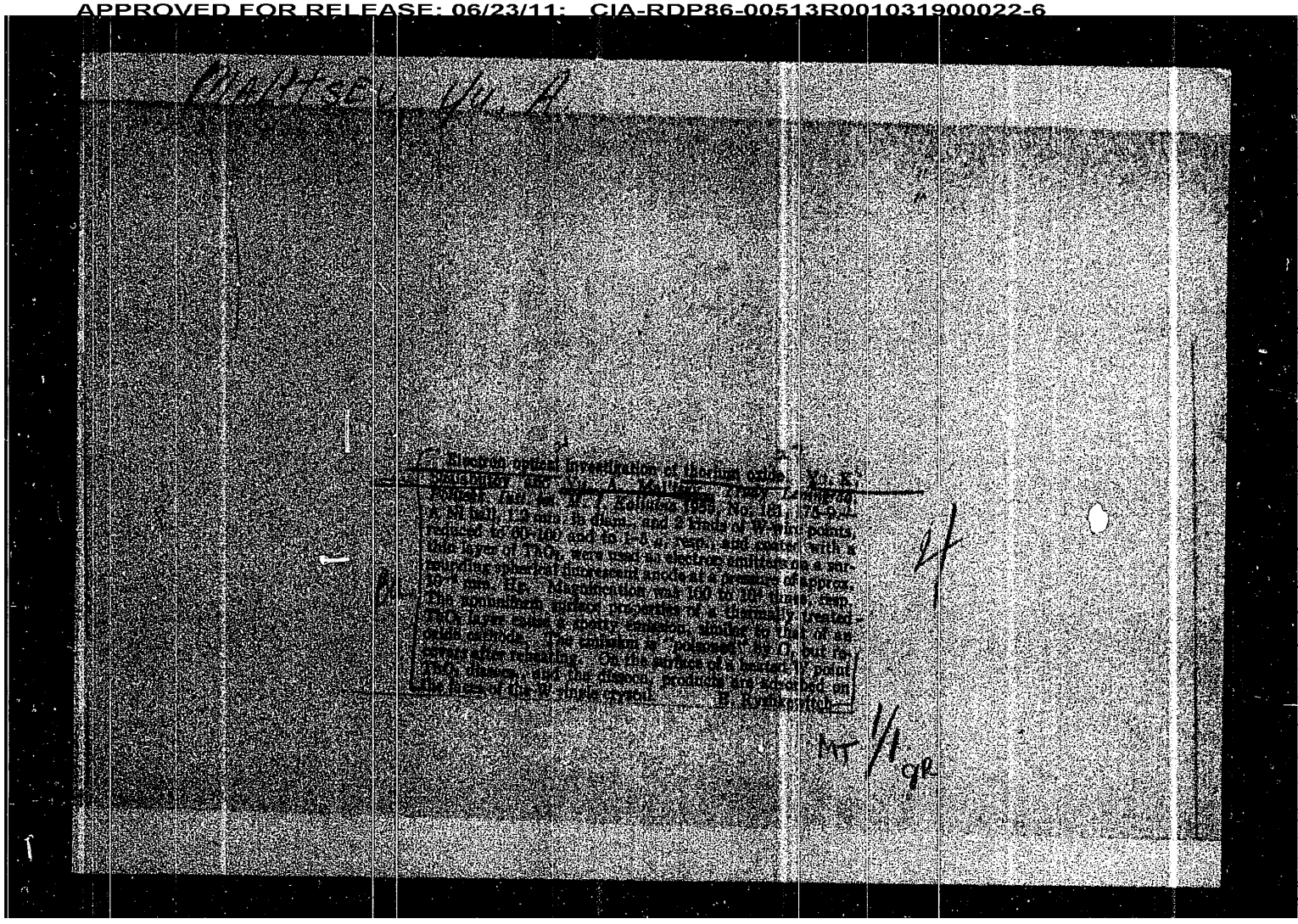

L 58469-65

ACCESSION NR: AP5010715

ENCLOSURE: 01

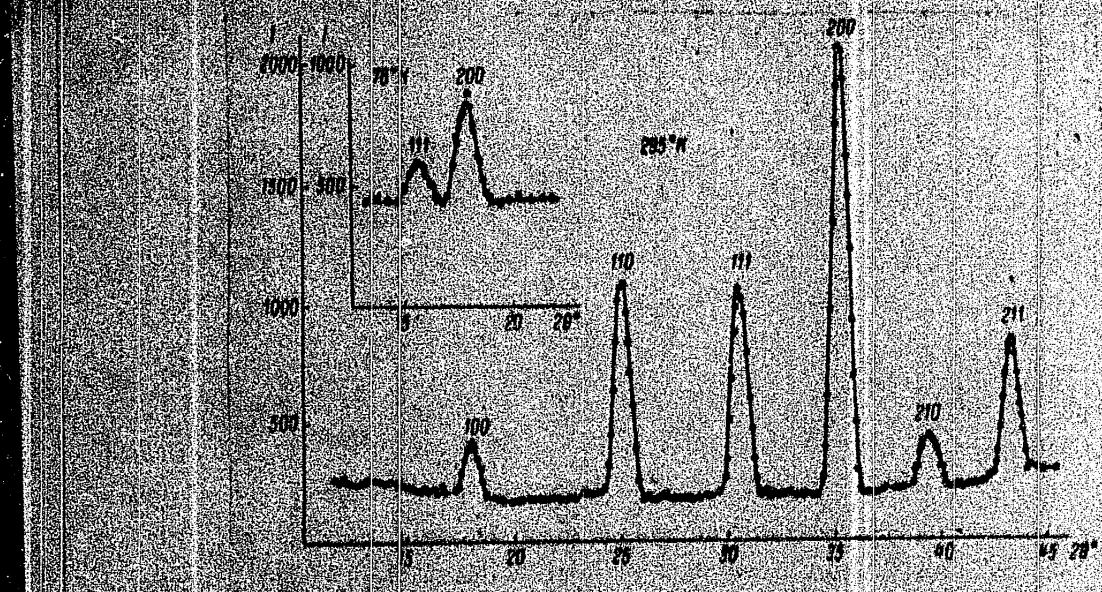

Fig. 1. Neutron diffraction patterns of $PbFe_{0.5}Nb_{0.5}O_3$ in the antiferromagnetic and paramagnetic states.

Card 3/3 pp

L 58469-65

ACCESSION NR: AP5010745

3

has a near-order character. "The authors thank G. A. Smolenskiy and D. M. Kaminker for valuable advice and continuous interest." Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institute im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute, AN SSSR)

SUBMITTED: 05Nov64 ENCL: 01 SUB CODE: SS

NR REF SOV: 002 OTHER: 002

Card 2/3

L 58469-65 EWT(1)/EPA(a)-2/EEC(t) Pt-7/Pl-4 IJP(c) GG

ACCESSION NR: AP5017045 UR/0181/65/007/004/1241/1242

AUTHOR: Drabkin, G. M.; Mal'tsev, Yu. I.; Plakhtiy, V. P. 35 32 0

TITLE: Investigation of the magnetic ordering in the ferroelectric $PbFe_{0.5}Nb_{0.5}O_3$

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1241-1242

TOPIC TAGS: ferroelectricity, magnetic ordering, temperature dependence, short range order

ABSTRACT: To check on the ferromagnetic anomaly observed for this substance near 143K (V. A. Bokov et al.; ZhETF v. 42, 643, 1962), the authors investigated by x-ray methods the magnetic ordering in a polycrystalline sample of this compound. The results are shown in Fig. 1 of the Enclosure. The effective magnetic moment of the Fe^{3+} ion was determined from the intensity of the 111 reflection and found to be (0.80 ± 0.16) Bohr magnetons, which is less than half the theoretical value. The discrepancy is attributed to the near order in the distribution of the iron and niobium atoms, and it is concluded that the ferroelectric $PbFe_{0.5}Nb_{0.5}O_3$ has magnetic ordering and the distribution of the iron and niobium atoms in the lattice

Card 1/3

PLAKHTIY, V.P.; MAL'TSEV, Ye.I.; KAMINKER, D.M.

Neutron diffraction examination of certain compounds with a perovskite structure. Izv. AN SSSR. Ser. fiz. 28 no. 3:436-439 Mr '64. (MIRA 17:5)

YAMZIN, I.I.; KUZ'MINOV, Yu.S.; STARITSYN, V.Ye.; MAL'TSEV, Ye.I.

Neutron diffractometer. Kristallografiia 8 no.2:302-304 Mr-Ap '63.
(MIRA 17:8)

1. Institut kristallografii AN SSSR i Fiziko-tekhnicheskiy institut AN SSSR.

ACCESSION NR: AP4023386

magnetic behavior indicates that the cell must be complex. Superstructure neutron reflection lines were observed above the Neel point, and it is concluded that the unit cell is similar to that of $LaAlO_3$, containing two stoichiometric units. In the suggested structure, Fe^{3+} occupies the 000 and $\frac{111}{222}$ positions, and Bi^{3+} the $\frac{111}{444}$ and $\frac{333}{444}$ positions. The observed superstructure reflections are ascribed to displaced O^{2-} ions. The investigation of $PbFe_{2/3}W_{1/3}O_3$ was undertaken to determine the type of magnetic ordering and the magnetization of the sublattice. Two reflections appeared below the Neel point to which the indices 111 and 311 could be ascribed. From this it is concluded that the magnetic structure is of the G type. The magnetization of the sublattice was calculated by extrapolating the 111 magnetic reflection peak to low temperatures. A value of 2.2 Bohr magnetons was found, which is in good agreement with the theoretical value of 2.1 obtained by G.A.Smolenskiy, V.A. Bokov and A.I.Mitsek (Izv.AN SSSR,Ser.fiz.,28,No.4,1964). "In conclusion, the authors express their deep gratitude to G.A.Smolenskiy and G.M.Drabkin for valuable advice and great assistance in conducting the work. The authors thank Ye.S.Sher for performing the laborious task of preparing the samples, and A.G.Tutov for the x-ray studies." Orig.art.has: 3 figures.

Card 2/2

ACCESSION NR: AP4023386

S/0048/64/028/003/0436/0439

AUTHOR: Plakhtiy, V.P.; Mal'tsev, Ye.I.; Kaminker, D.M.

TITLE: Neutron diffraction study of some compounds with the perovskite structure /Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 May to 5 June 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.3, 1964, 436-439

TOPIC TAGS: neutron diffraction, perovskite structure, $BiFeO_3$, $PbFe_{2/3}W_{1/3}O_3$, superstructure

ABSTRACT: $BiFeO_3$ and $PbFe_{2/3}W_{1/3}O_3$ were investigated by neutron diffraction because of recent evidence that they combine ferroelectric properties with ferromagnetic or antiferromagnetic properties. The apparatus employed has been described elsewhere (Yu.S.Kuz'minov and others, Kristallografiya,8,2,1963). The powder samples were contained in 12 mm x 80 mm aluminum cans with 0.1 mm wall thickness. Both samples were examined at two temperatures, one above and one below the Neel point. The investigation of $BiFeO_3$ was undertaken to elucidate its crystal structure. X-ray diffraction studies showed that the structure is of the perovskite type, and

Card 1/2

A neutron diffractometer

S/070/63/008/002/017/017
E039/E435

institut AN SSSR (Physico-technical Institute AS USSR)

SUBMITTED: October 1, 1962

Card 3/3

A neutron diffractometer

control is remote except for the reversal of the drive and displacement of the carriage. It has been used with the BBP-M (VVR-M) reactor at the Physico-technical Institute. A collimated beam of neutrons is incident on a monochromator consisting of a single crystal plate of lead cut at an angle of 6° to the (111) plane; dimensions 100 x 175 x 10 mm, before entering the diffractometer. The whole of the neutron beam from the channel to the sample is contained in a borated-paraffin shield with lead bricks outside. The shield thickness is about 1 m. A CHMO-5 (SNMO-5) counter placed in a cylindrical channel in borated-paraffin is used as a neutron detector on the carriage of the diffractometer. It is used in conjunction with a monitoring counter to correct for fluctuations in the intensity of the primary beam. The resolution $\Delta\lambda/\lambda = 0.035$ for $\lambda = 1.13$ Å. Results obtained from a polycrystalline sample of yttrium ferrite are given. The sample size is diameter 20 mm and length 100 mm. There are 2 figures.

ASSOCIATIONS: Institut kristallografii AN SSSR (Institute of Crystallography AS USSR) Fiziko-tekhnicheskiy

S/070/63/008/002/017/017
E039/E435

AUTHORS: Yamzin, I.I., Kuz'minov, Yu.S., Staritsyn, V.Ye., Mal'tsev, Ye.I.

TITLE: A neutron diffractometer

PERIODICAL: Kristallographiya, v.8, no.2, 1963, 302-304

TEXT: This instrument differs from the earlier miniature diffractometer made at the Institute of Crystallography in that it is universal and intended for the investigation of poly and single crystals. The mechanical loading requirement in the design is stringent, e.g. the axial load on the sample stage is about 2 tons. A fairly detailed description of the apparatus is given. Its main dimensions are: length of baseplate 2800 mm, width 1050 mm, height 550 mm, distance from center of sample stage to the end of the cantilever 2000 mm, distance from the center of the stage to the end of the counterweight 650 mm. Overall weight without the electromagnet is about 3 tons. The base is of cast iron with parallel ways for the displacement of the carriage. The latter is moved by means of a worm drive. Ball bearings are used throughout to facilitate operation and ensure long service. All

Card 1/3

Determination of ....

yttrium oxide, as published by W. Zachariasen (Norsk. geol. tidsskr. 9, 310 - 316, 1926; Struct. Rept., 16, 218, 1952). The average of three measurements of the amplitude of the Raman scattering was $b_Y = (+0.816 \pm 0.07) \times 10^{-12}$ cm . There is 1 figure.

ASSOCIATIONS: Institut kristallografii AN SSSR (Institute of Crystallography of the AS USSR)
Fiziko-tekhnicheskiy institut AN SSSR (Physico-technical Institute of the AS USSR)

SUBMITTED: June 8, 1962

S/070/62/007/006/017/020
E073/E335

AUTHORS: Kuz'minov, Yu.S., Yamzin, I.I., Mal'tsev, Ye.I. and Belov, N.V.

TITLE: Determination of the amplitude of Raman scattering of thermal neutrons on yttrium nuclei

PERIODICAL: Kristallografiya, v. 7, no. 6, 1962, 948 - 949

TEXT: The atlas of Hughes on neutron cross-section gives the value $\sigma = (8.0 \pm 0.3) \times 10^{-24}$ cm^2. It can be calculated from this value that $b_Y = 0.8 \times 10^{-12}$ cm. There was some doubt about this value since the references given by Hughes did not contain information on the scattering of neutrons on yttrium. The authors of this paper determined b_Y from the measured intensity of neutron diffraction on polycrystalline yttrium oxide, using a 15-mm diameter, 70 mm high specimen pressed from powder of a grain size between 1 and 5 μ. The value of b_Y was determined from tabulated values of $b_0 = 0.58 \times 10^{-12}$ cm^2 and the structural model of

Card 1/2

MAL'TSEV, Ye.I.

First results of the organization of work at the Second Province Hospital in Gorkiy Province. Zdrav.Ros.Feder. 3 no.8:10-13 Ag '59. (MIRA 12:11)

1. Glavnyy vrach Gor'kovskoy oblastnoy bol'nitsy No.2.
(GORKIY PROVINCE--HOSPITALS)

MAL'TSEV, Ye.I.

Results of reorganizing the public health system in Krasnyye Baki District, Gorkiy Province. Zdrav.Ros.Fed. 2 no.10:20-23 O'58 (MIRA 11:10)

1. Glavnyy vrach Gor'kovskoy oblastnoy bol'nitsy No.2.
(KRASNYYE BAKI DISTRICT--PUBLIC HEALTH)

MAL'TSEV, Yelisey Dmitriyevich; MALYAVINA, O.M., red.

[Distillation of salt water; distillation method using the heat of nuclear reactors] Opresnenie solenykh vod; metod distilliatsii s ispol'zovaniem tepla iadernykh reaktorov. Moskva, Atomizdat, 1965. 82 p. (MIRA 18:11)

32002
S/089/62/012/001/005/019
B102/B138

The thermal factor in the...

Eng. Progress, 52, No. 10, 417 (1956); R. Schechter, E. Gloyna. Sawage and Ind. Wastes, 31, No. 10, 1165 (1959).

SUBMITTED: June 29, 1961

Card 3/3

32002
S/089/62/012/001/005/019
B102/B138

The thermal factor in the...

temperature of zero for the medium. r and z are cylinder coordinates, t the injection time, m - porosity, γ - density, c - specific heat, k - heat conduction coefficient, $\beta = 2\pi\lambda mh/Q$, $b^2 = Q/2\pi mh$, $\theta = 1/4a^2(t-\tau)$, $a^2 = k/c\gamma$ is the thermal diffusivity, τ time counted from the moment of particle emission from the source, $f = Ae^{-\lambda\tau}$, the density of heat sources. For a bore hole of h = 15 m and hot waste of $Q = 500$ m^3/Curie for $t \leq 30$ years a numerical example is calculated. Conclusions: When liquid hot waste is disposed in porous formations of the Earth's crust, the environment is considerably heated. Heating temperature and activity of waste are in direct proportion. Porosity and dimensions of the stratum also have an influence. The activity disposed is thus limited by the permissible heating of the stratum, which is determined by various factors, e. g. vapor formation or physicochemical changes in the rock. The formula given is approximate since many factors have been neglected in its derivation, e. g. heat convection and sorption processes. There are 4 figures, 1 table, and 4 non-Soviet references. The three references to English-language publications read as follows: I. Perring. Repts. Atomic Energy Res. Establ., No. C/R 1294, 1957, p. 10; E. Cappinger, R. Tomlinson. Ch...

Card 2/3

32002
S/089/62/012/001/005/013
B102/B138

21.4500

AUTHORS: Mal'tsev, Ye. D., Yudin, F. P., Shamin, V. S., Dolgikh, P. F.

TITLE: The thermal factor in the problem of liquid radioactive waste disposal in the Earth's interior

PERIODICAL: Atomnaya energiya, v. 12, no. 1, 1962, 36 - 39

TEXT: The temperature field is considered, which is formed in the neighborhood of liquid hot waste disposed in porous formations of the Earth's crust. A plane layer is considered, of thickness 2h occupying a region $-\infty < x, y < \infty$, $-h \leqslant z \leqslant h$. At $x = y = 0$, $-h \leqslant z \leqslant h$ there are assumed to be continuous sources incompressible liquid with a total constant power q, $Q = 4\pi mhr\, dr/d\tau$. The temperature field is given by

$$u(r, z, t) = \frac{A}{2k\sqrt{\pi}} \int_{\frac{1}{4a^2t}}^{\infty} \frac{e^{-\theta r^2}}{\sqrt{\theta}}\, d\theta \int_{-h}^{h} e^{-\theta(z-\zeta)^2}\, d\zeta \int_{0}^{b\sqrt{t-\frac{1}{4a^2\theta}}} \rho e^{-(\theta+\beta)\rho^2} I_0(2\rho r\theta)\, d\rho. \qquad (7).$$

The temperature is given an excessive value corresponding to an initial

Card 1/3

GAL'PSHV, Ye.D., master.

Installing economizers in boilers. Energetik 5 no.6:11 Je '57
(MLRA 10:7)

(Boilers)

MAL'TSEV, Ya., predsedatel'.

Commission of the shop committee on living conditions. V pom.profaktivu 14 no.14:19-20 Jl '53. (MLRA 6:7)

1. Zhilishchno-bytovaya komissiya komiteta profsoyuza zavoda "Krasnoye Sormovo" imeni A.A.Zhdanov. (Trade-unions)

A

L 9222-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6000984 SOURCE CODE: UR/0286/65/000/022/0059/0059

INVENTOR: Plate, N. A.; Mal'tsev, V. V.; Kolesnikov, G. S.; Davydova, S. L.

ORG: none

TITLE: Preparation of organotin and organogermanium polymers. Class 39, No. 176408

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 59

TOPIC TAGS: organotin compound, organogermanium compound, polymer, catalytic polymerization, lithium compound

ABSTRACT: An Author Certificate has been issued for a preparative method for organotin or organogermanium polymers with enhanced heat resistance. The method involves polymerization of tin or germanium vinyl derivatives over alkyllithium catalyst. [BO]

SUB CODE: 07/ SUBM DATE: 18Sep63/ ATD PRESS: 4158

Card 1/1

UDC: 678.745.7

MAL'TSEV, V.V.

Protection of the personnel working with organic solvents. Gig. sanit., Moskva no. 1:27-28 Jan 1953. (CLML 24:2)

1. Of Novosibirsk Isolation Admission Station.

MAL'TSEV, V. V.

USSR/Medicine - Disinfection Aug 52

"Vapor and Air Generating Electrical Disinfection Chamber 'Malyutka' (MO-3)," V. V. Mal'tsev, V. I. Ovechkin, Chair of Infectious Diseases, Novosibirsk Med Inst, (S. S. Kushelevskiy, Principal)

Sovetskaya Meditsina, No 8, pp 27-28

The vapor and [hot] air generating electrical disinfection apparatus "Malyutka" (MO-3), stationary type, has proved to be 100% effective, particularly against vegetative and sporiferous microbes. A current of steam and air, or steam, air and formaldehyde is used. Any value of the relative humidity can be achieved. The process is harmless to the objects treated.

248T18

PA 248T18

248T18

MAL'TSEV, V. V.

? Barnaul'sk Sanitation District ?, (-1944-)

"Disinfection in the chambers of small volume which have apparatuses for warming."

Zhur. Mikrobiol., Epidemiol., i Immunobiol., No. 1-2, 1944

L 55076-65
ACCESSION NR: AP5015628

ENCLOSURE: 01

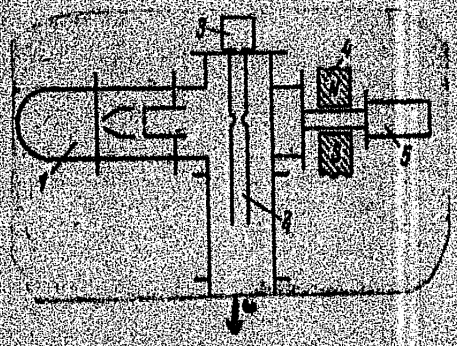

Fig. 1. Diagram of the apparatus

1 - Ion source; 2 - tube containing pulsed gas charge exchange target; 3 - electrodynamic valve; 4 - magnet for removing ions; 5 - beam catcher and measuring instruments; 6 - connection to the pumps.

Card 3/3

L 55056-65
ACCESSION NR: AP5015628

2

the target to the ion source exceeded the pulse duration; if the target gas pressure in the vicinity of the target should rise to such a value as to result in electrical breakdown, this would occur only after the pulse was over and would not interrupt operations. Hydrogen was employed as the target gas and an a-c charge exchange efficiency of 50% was achieved. The operation of the apparatus was investigated for different values of the parameters with deuterium as the target gas; this made it possible to follow the motions of the target gas by observing the neutron yield from the tritium ion beam. In these experiments the beam intensity and profile were determined calorimetrically. The results of these experiments are briefly discussed. "In conclusion, the authors thank I.K.Kikoin for his constant interest in the work, and also V.N.Bobarikо for his daily assistance in conducting the experiments." Orig. art. has: 3 formulas and 6 figures. [15]

ASSOCIATION: none

SUBMITTED: 14Aug64 ENCL: 01 SUB CODE: NP, ME

NO REF SOV: 006 OTHER: 001 ATD PRESS: 4027

Card 2/3

L 55056-65 EWT(l)/EPF(n)-2/EWG(m)/EPA(w)-2 -Pz-6/Po-4/Pab-10/Pi-4 IJP(c)
ACCESSION NR: AP5015628 WW/AT UR/0057/65/035/006/1047/1052

54
54
B

AUTHOR: Knyazyatov, I.S.; Mal'tsev, V.V.

TITLE: Production of an intense pulsed beam of accelerated tritium atoms

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 6, 1965, 1047-1052

TOPIC TAGS: atom, particle beam, atomic beam, charge exchange, plasma diagnostics, hydrogen, deuterium, tritium

ABSTRACT: An apparatus is described with which 0.5 to 2 μsec pulses of 100 kev tritium atoms can be produced with an intensity equivalent to an ion current of 5 ma at 1 m from the source. The apparatus was developed for plasma diagnostics (measurement of deuterium plasma densities by the neutron yield), but pulsed beams of accelerated atoms are useful also for other purposes. The atom beam was produced from an ion beam by charge exchange on a gaseous target. A diagram of the apparatus is shown in Fig. 1 of the Enclosure. The distinctive feature of the apparatus is the use of a pulsed gas jet charge exchange target; this considerably reduces the pumping requirements from those that would have to be met in the case of a continuous flow gas target. The apparatus was so constructed that the diffusion time from

Card 1/3

KNYAZYATOV, A.S.; MAL'TSEV, V.V.; OTROSHCHENKO, G.A.

Calorimetric measurements of the intensity of a beam from a pulse ion source. Prib. i tekh. eksp. 9 no.5:46-48 S-O '64. (MIRA 17:12)

KNYAZYATOV, A.S.; MAL'TSEV, V.V.; OTROSHCHENKO, G.A.

Pulse source of helium ions. Prib. i tekh. eksp. 9 no.1:
196-197 Ja-F '64. (MIRA 17:4)

L 16795-63
ACCESSION NR: AP3007057

investigating device was a toroidal discharge chamber in a weak longitudinal magnetic field. The principal diameter of the toroid was 750 mm, the inner diameter of the discharge chamber, about 210 mm, the intensity of the magnetic field, 200—700 oe, and the maximum discharge current, about 100 kamp. The discharge time in the chamber was approximately 600 μsec, the pulse duration of the ion source, approximately 2000 μsec, and the time delay between the start of the discharge in the chamber and the start of the pulse of the source current, 500—1000 μsec. Measurements were carried out with the discharge chamber filled with deuterium and, as a control, with hydrogen. The average plasma density over the whole path of a tritium beam was determined. Although the plasma density is greater after discharge, the increase cannot be regarded as a result of plasma compression but merely as result of the liberation of gas from the chamber walls during discharge. Orig. art. has: 8 figures.

ASSOCIATION: none
SUBMITTED: 07 Mar 63 DATE ACQ: 080ct63 ENCL: 00
SUB CODE: PH NO REF SOV: 002 OTHER: 000
Card 2/2

L 16795-63 EWT(1)/EWG(k)/EWP(q)/EWT(m)/BDS/ES(w)-2 AFFTC/ASD/ 85
ESD-3/AFWL/IJP(C)/SSD Pz-4/Pab-4/Po-4/Pi-4 JD/AT
ACCESSION NR: AP3007057 S/0056/63/045/003/0428/0436

AUTHOR: Gokhberg, B. M.; Kikoin, I. K.; Knyazyatov, A. S.; Mal'tsev, V. V.; Otposhchenko, G. A.

TITLE: Use of tritium ion beam to determine deuteron plasma density

SOURCE: Zh. eksper. i teoret. fiziki, v. 45, no. 3, 1963, 428-436

TOPIC TAGS: deuteron plasma density, toroidal discharge chamber, plasma density measurement, plasma density, plasma

ABSTRACT: A method for investigation of a deuteron plasma by means of a beam of tritium ions introduced into the plasma is described. The method is based on recording the secondary particles resulting from reaction $D(t,n)He^4$, caused by the collision of accelerated tritium ions with the plasma particles. The energy of the injected tritons was approximately 160 Kev, and the energy of the neutrons and alpha particles produced, 14 and 3.5 Mev, respectively. The

Card 1/2

ACCESSION NR: AT4025309

posite takes place. A control experiment has shown that the increase in the neutron yield is not due to a displacement of the ion beam during the discharge. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 19Oct63 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: ME NR REF SOV: 002 OTHER: 000

Card 3/3

ACCESSION NR: AT4025309

small diameter 200 mm, maximum capacitor bank energy 35 kJ, maximum discharge current 100 kA). The ion current and the position of the beam were monitored with thermocouples distributed over the channel. The tritium beam source is described elsewhere (I. I. Afanas'yev et al. "Atomnaya energiya" v. 13, No. 8, 135, 1962). The investigation of the neutron yield from the ion collector located on the inside of the discharge chamber has made it possible to draw certain conclusions concerning the absorption of the working gas (deuterium) by the walls of the discharge chamber. However, in the case of high-frequency ionization of the gas (preliminary ionization) the walls are capable of absorbing a very large amount of gas. Investigations of the variation of the deuterium plasma density during the discharge time show that the plasma density increases by several times during the discharge, as a result of interaction between the plasma and the walls. When deuterium is used in the discharge chamber, the yield of neutrons decreases immediately after the discharge, compared with the yield in the absence of discharge. In the case of hydrogen, the op-

Card 2/3

ACCESSION NR: AT4025309 S/0000/63/000/000/0193/0198

AUTHORS: Kikoin, I. K.; Gokhberg, B. M.; Mal'tsev, V. V.; Otroshchenko, G. A.; Knyazyatov, A. S.

TITLE: Probing a deuterium plasma with a tritium beam

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey. Moscow, Gosatomizdat, 1963, 193-198

TOPIC TAGS: deuterium, tritium, plasma density, plasma electromagnetic property, neutron yield, discharge plasma

ABSTRACT: The method is based on the registration of the number of reactions between the incident tritium nuclei and the deuterium nuclei of the plasma, making it possible to investigate the variation of the deuterium density independently of the degree of ionization of the plasma and of the impurity contents. The investigation was made in the "Igla" toroidal chamber (large diameter 750 mm,

Card 1/3

ZEMLYANOY, M.I., kand.tekhn.nauk; MAL'TSEV, V.V., kand.tekhn.nauk

Problems concerning the cooling of electrical machines.
Vest. elektroprom. 33 no.11:1-4 N '62. (MIRA 15:11)
(Electric machinery--Cooling)

MAL'TSEV, V.V., kand.tekhn.nauk; PANTYUKHOV, L.L., kand.tekhn.nauk

Calculation of the ventilation system of enclosed asynchronous motors with 0.6 to 100 kw. power rating. Vest. elektroprom. 33 no.3:24-28 Mr '62. (MIRA 15:3)
(Electric motors, Induction--Cooling)

Analysis of gas motion and heat transfer in ....

the fluid through the airgap, the size of the rotor and airgap, and the roughness of the stator and rotor surfaces. The limits of Re_{crit} are specified. The case is studies when the roughness of the stator differs from that of the rotor surface. The airgap temperature field is finally examined. The results of some measurements of the dependence of heat-transfer coefficients of rotor surfaces upon the rotating speed (with turbulent flow), the temperature (Δt) and the flow rate of air through the airgap are reproduced graphically. There are 10 figures.

Card 3/3

Analysis of gas motion and heat transfer in ....

transfer coefficient α_{cor} containing the correction factor:

$$\varepsilon_{cor\ rad} = \frac{1}{\sqrt{\frac{\omega d}{v_{ch}}} - 1.4 \cdot 10^{-4}\ Re} \qquad (6)$$

for radial channels, and

$$\varepsilon_{cor\ ax} = \sqrt{\frac{\omega d}{v_{ch}}} - 1.4 \cdot 10^{-4}\ Re \qquad (10)$$

for axial channels, by which α (such as it is usually calculated) must be multiplied, ω being here the angular velocity of the channel, d its hydraulic diameter and v_{ch} the relative velocity of the fluid in the channel. The flow of the fluid in the airgap is next investigated analytically. A device for the experimental determination of the airgap hydraulic resistance coefficient is briefly described and the obtained curves are reproduced. On the basis of investigations and of the data supplied by G. Taylor (Proc. Roy. Soc. [A], v. 157, 1936) and S. Goldstein (Proc. Cambridge Phil. Soc., 33, 1937, 41) it is stated that the critical Reynold's numbers depend on the rotor speed, the flow rate of

Card 2/3

S/110/62/000/011/001/001
A055/A126

26.2351
26.2120

AUTHOR: Mal'tsev, V.V., Candidate of Technical Sciences

TITLE: Analysis of gas motion and heat transfer in rotating rotors

PERIODICAL: Vestnik elektropromyshlennosti, no. 11, 1962, 15 - 22

TEXT: This article, which deals especially with the dependence of the heat transfer coefficient on the rotating speed, is the continuation of the author's earlier work (Vestnik elektropromyshlennosti, no. 8, 1960). A device for the experimental determination of the heat-transfer coefficient for radial channels is described, the device for axial channels being practically the same as in the earlier work. Three graphs are reproduced, showing the measured dependence of the heat-transfer coefficient on the rotating speed. With a laminar flow, this coefficient decreases in case of radial channels, and increases in case of axial channels, when the rotating speed grows. This behavior of the coefficient is explained by resorting to the analysis (made in the earlier work) of hydraulic friction resistance of fluids of whirl formation in rotating channels. In this analytical part of the article are also deduced formulae for the corrected heat-

Card 1/3

MAL'TSEV, V.V., kand.tekhn.nauk

Study of the internal radial ventilation in turbogenerator rotors. Vest. elektroprom. 31 no.8:51-56 Ag '60. (MIRA 15:5)
(Turbogenerators--Cooling)

An Investigation of the Motion of Cooling Gas in the Air-Gap of an Electrical Machine

simple application of the hydro-dynamic theory of heat exchange. Frictional losses between rotor and gas are readily calculated. There are 8 figures and 5 references 3 of which are English and 2 German.

to the square of the relative velocity between the rotor and the gas in the air-gap. The method of investigating the effect of rotor roughness is briefly explained and the results are plotted in Fig 7. It will be seen that with stable turbulent flow over rough stator and rotor surfaces, the coefficient of friction does not depend upon the speed of rotation. Experimental curves of the coefficient of friction of the rotor and stator surfaces with air for rough and smooth surfaces are given in Fig 8. It is concluded that formula (5) gives the coefficient of friction with the stator or rotor surfaces for the case of steady turbulent flow of gas in the air-gap. It will be seen from the curves in Fig 7 that increasing the roughness of the stator surface increases the frictional force between the rotor and air and that reducing the air-gap length also increases the frictional force between rotor and air. It is concluded that the results of the work can be used to determine heat transfer from the surfaces of stator and rotor in an air-gap by

from the data plotted in Fig 4. A special rig was set up to determine the coefficient of friction between the gas and the rotor. This equipment, illustrated in Fig 5, is similar to that already described except that arrangements are made to drive the rotor at varying speeds, measuring the motor torque meanwhile. The rotor roughness was altered for the purpose of the tests by sticking different kinds of granular material to it. Two phases of the investigation may be distinguished: 1) a qualitative evaluation of the influence of the axial gas-flow and of the rotor peripheral velocity on the coefficient of friction and 2) a quantitative determination of the coefficients of friction of the stator and rotor surfaces. The investigation of the influence of axial gas-flow on the frictional force between rotor and gas is first considered. The corresponding test results, given in Fig 6, indicate that increasing the axial flow of gas increases the frictional force by an amount proportional

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examined theoretically. The momentum equations (1) and (2) formulated and expression (11) is derived for the gas velocity. After appropriate substitutions the velocity is expressed in the form of Eq (12), which includes the square root of the ratio of the coefficient of friction of gas with the stator to that with the rotor. If the stator and rotor coefficients of friction are equal, the case considered by Wendt is obtained. If gas flows axially through the air-gap there is usually a gradual acceleration of rotational motion along the length of the air-gap and the velocity should be determined by the Eq (11). Eq (11) was verified by tests made on the special rig diagrammatically illustrated in Fig 3. Basically it consists of a model of a rotor running in a stator with a fan drawing air axially through the gap. Air velocity measurements were made in the air-gap, which ranged in length from 1.5 to 28 mm. The experimental results are in good agreement with velocities calculated from Eq (11) as will be seen

An Investigation of the Motion of Cooling Gas in the Air-Gap of an Electrical Machine

obtained are briefly described. Tailor's diagram of secondary circulation of gas in an air-gap, given in Fig 2, is used to explain the two new types of velocity distribution. This secondary circulation causes the gas to flow from rotor to stator in some places and from stator to rotor in others. It will be readily seen that such motion can give rise to velocity distribution (b) and (c) and that one cannot exist without the other. It is convenient to make a theoretical analysis of the gas velocity distribution by consideration of the gas momentum. With velocity distribution (b) the momentum is greater than with velocity distribution (a) whilst with velocity distribution (c) it is less. However, these distributions occur in an orderless way at different places for a short time. It is therefore convenient to consider the total momentum which is practically the same as it would be if the velocity distribution was only of type (a). The speed of rotation of gas in the air-gap of an electrical machine without radial ducts in the rotor or stator is then

An Investigation of the Motion of Cooling Gas in the Air-Gap of an Electrical Machine

ranging from 1 to 50 mm and rotor radii from 50 to 500 mm showed that with turbulent flow there are three types of gas velocity distribution in the air-gap, as shown in Fig 1. The velocity distribution differs according to whether the tangential velocity of the gas in the middle of the air-gap is constant, as in curve (a); rising, as in curve (b) or falling, as in curve (c). The first of these cases has been investigated by Taylor (Ref 1) and Wendt (Ref 2) and it is briefly described. The special feature of curve (b) is that the gas between the rotor and stator boundary layers increases in tangential velocity as it moves away from the rotor. This velocity distribution is observed in those parts of the air-gap in which there is radial displacement of the gas from the inner cylinder to the outer. This type of distribution is not observed in an air-gap with axial gas flow. The author had some difficulty in obtaining velocity distribution curves of type (c) in model tests. The conditions under which this distribution was

SOV/110-59-6-7/24

AUTHOR: Mal'tsev, V.V., Engineer

TITLE: An Investigation of the Motion of Cooling Gas in the Air-Gap of an Electrical Machine (Issledovaniye dvizheniya okhlazhdayushchego gaza v vozdushnom zazore elektricheskoy mashiny)

PERIODICAL: Vestnik elektropromyshlennosti, 1959, Nr 6, pp 24-31 (USSR)

ABSTRACT: Calculations of machine cooling involve knowledge of velocity of rotation of gas in the air-gap. Existing published work on this subject is inadequate and the object of the present article is to reveal the physical nature of the flow of cooling gas in the air-gap of a cylindrical-rotor electrical machine and to provide a sufficiently accurate determination of the rate of rotation of the cooling gas. In the general case, three mutually perpendicular forces act on the gas in the air-gap; a force moving the gas along the air-gap because of the pressure difference between the ends of the machine; frictional forces between the gas and the rotor and stator surfaces, causing tangential motion; centrifugal forces which move the gas radially. Investigations on experimental rigs with air-gaps

Card 1/7

[illegible]AL'TSEV, V.V., Cand Tech Sci -- (diss) "Study of internal radial ventilation of turbogenerator rotors." [illegible], 195[illegible]. [illegible] with drawings (Scientific Research Inst of Electrical Engineering Industry), 150 copies. Bibliography at end of text (14 titles) ([illegible], 17-5, 120)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001031900022-6

L 00891-67 EWT(m)/T/EWP(t)/ETI IJP(c) JD/JW/JG

ACC NR: AP6021617 SOURCE CODE: UR/0021/66/000/006/0782/0784

AUTHOR: Sheyko, I. M. -- Sheyko, I. N.; Bukhalova, H. O. -- Bukhalova, G. A.; Mal'tsev, V. T.

ORG: Institute of General and Inorganic Chemistry, AN URSR (Instytut zahal'noyi ta neorhanichnoyi khimiyi AN URSR)

32
B

TITLE: The $KF-HfF_4$ binary system

SOURCE: AN UkrRSR. Dopovidi, no. 6, 1966, 782-784

TOPIC TAGS: hafnium compound, fluoride, thermographic analysis, phase composition

ABSTRACT: The authors study the $KF-HfF_4$ system at 400-1000°C with a hafnium fluoride concentration of up to 55 mol.% by the visual-polythermal method and up to 35 mol.% by the thermographic method on M. S. Kurnakov's pyrometer. Heat effects which interfere with the study are encountered when hafnium fluoride concentration exceeds 55%. The visual-polythermal, thermographic and x-ray phase methods show that two congruently melting compounds, K_3HfF_7 and $KHfF_5$, and one incongruently melting compound, K_2HfF_6, are formed during crystallization from liquidus in this binary system where HfF_4 concentration is less than 50 mol.%, while the compound K_4HfF_8 is formed in the solid phase. The article was presented for publication by Academician Yu. K. Delimars'kyy. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 19Jun65/ ORIG REF: 004

Card 1/1 afs

L 45770-66
ACC NR: AP6026299

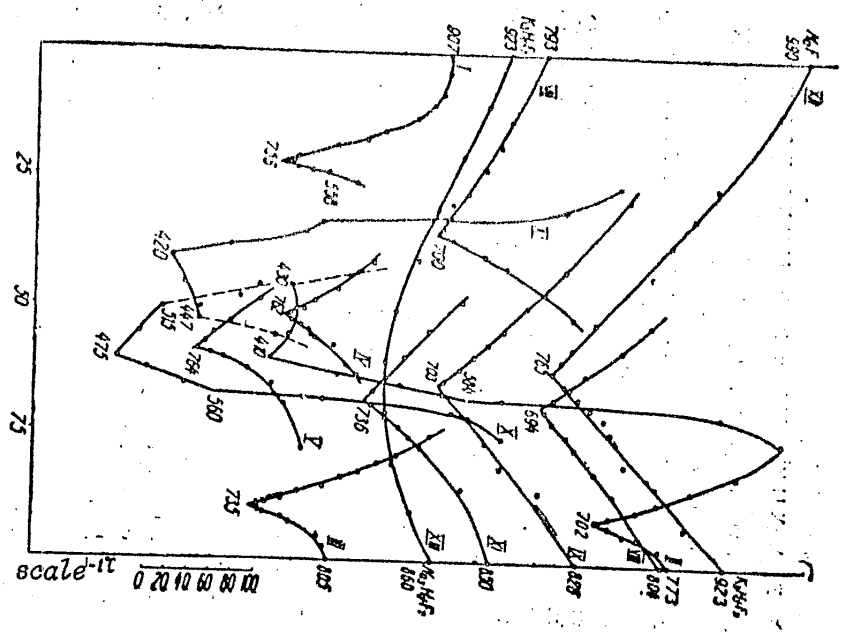
the NaF-KF-HfF_4 ternary system. It is shown that surface crystallization is divided into 6 fields by monovariant curves: field 1 I - HfF_4, II - $NaHfF_5$-$KHfF_5$ solid solution; III - Na_2HfF_6-K_2HfF_6 solid solution; IV - Na_3HfF_7-K_3HfF_7 solid solution; V - NaF; VI - KF. It is shown that the system has one ternary eutectic point with the composition: 27 mol.% NaF, 65% Kf, 8% HfF_4 with a melting point of 680°C. Visual polythermic and thermographic methods show that the compounds Na_3HfF_7, K_3HfF_7, Na_2HfF_6, K_2HfF_6, $KNaHfF_5$ and $KHfF_5$ form a continuous series of solid solutions, thus showing their isomorphism. The article was presented for publication by Academician AN URSR Yu. K. Delimars'kyy. Orig. art. has: 2 figures.

SUB CODE: 07, 20/ SUBM DATE: 19Jun65/ ORIG REF: 006

Card 3/3

L 45770-66

ACC NR: AP6026299



Card 2/3

L 45770-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6026299 SOURCE CODE: UR/0021/66/000/007/0917/0919

AUTHOR: Sheyko, I, M. -- Sheyko, I. N.; Bukhalova, H. O. -- Bukhalova, G. A.; Mal'tsev, V. T.

ORG: Institute of General and Inorganic Chemistry, AN URSR (Instytut Zahal'noyi ta neorhanichnoyi khimiyi AN URSR)

TITLE: $NaF-KF-HfF_4$ ternary system

SOURCE: AN UkrRSR. Dopovidi, no. 7, 1966, 917-919

TOPIC TAGS: hafnium compound, sodium compound, potassium compound, fluoride, thermographic analysis, crystallization, eutectic mixture, solid solution, ternary alloy, phase diagram

ABSTRACT: The paper is a continuation of the authors' study on the interaction of hafnium fluoride with potassium and sodium fluorides in solution to obtain data for the electrometallurgy of hafnium. The method used for studying, preparation of alloys and apparatus used in this study is described in previous works by the authors. Both the visual polythermic and thermographic methods were used for studying melting in the $NaF-KF-HfF_4$ system. Thirteen internal sections were studied (see figure 1). A figure is given for the projection of the liquidus surface on the phase diagram for

Card 1/3

L 26262-66 EWT(m) JD/JG

ACC NR: AP6014270 SOURCE CODE: UR/0153/66/009/001/0151/0153

18 B

AUTHOR: Mal'tsev, V. T.; Bukhalova, G. A.

ORG: Department of General Chemistry, Rostov-on-Don Construction Engineering Institute (Kafedra obshchey khimii, Rostovskiy-na-Donu inzhenerno-stroitel'nyy institut)

TITLE: Solid solutions of hexafluoroaluminates of potassium, rubidium, and cesium

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 1, 1966, 151-153

TOPIC TAGS: solid solution, thermographic analysis, electrical propulsion

ABSTRACT: Rubidium and cesium halides lose electrons easily and therefore are of interest as stabilizers in electric-arc welding of aluminum and its alloys. This work was aimed at determining the behavior of rubidium, cesium, and potassium attached to a complex anion, such as the hexafluoroaluminate ion. Binary systems of hexafluoroaluminates of rubidium, cesium and potassium were examined from this point of view. The starting components for the thermographic investigations were prepared by fusion of individual, analytical grade halides. It was found that K_3AlF_6, Rb_3AlF_6, and Cs_3AlF_6 melts on cooling form a continuous series of solid solutions, which decompose on further cooling. The formation of continuous solid solutions causes temperature shifts of polymorphic transitions; the latter are not observed in any of the systems on cooling down to 200C. Orig. art. has: 2 figures and 1 table. [VS]

SUB CODE: 16/ SUBM DATE: 28May64/ ATD PRESS: 4244

UDC: 541.1

Card 1/1 CC

L 2612-65

ACCESSION NR: AP5017982

position square into two phase triangles. The K_3F_3 - Na_3F_3 - K_3HfF_7 phase triangle has a eutectic point at 680C with the composition 32% Na_3F_3, 25% K_3HfF_7, 43% K_3F_3. In the Na_3F_3 - K_3HfF_7 - Na_3HfF_7 phase triangle, the curve of cocrystallization of sodium fluoride and solid solutions of sodium and potassium heptafluohafnates has a slight minimum at 756C and the composition 20% Na_3F_3, 20% K_3HfF_7, 60% Na_3HfF_7. The system Na^+, K^+ // F^-, HfF_7^{3-} is the first representative of fused salt systems involving alkali metal fluohafnates. Orig. art. has: 3 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR (Institute of General and Inorganic Chemistry, AN UkrSSR)

SUBMITTED: 05Feb65 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 002 OTHER: 000

Card 2/2

L 6361?-65 EWT(m)/EWT(b)/EWP(t) IJP(c) JD
ACCESSION NR: AP5017982 UR/0073/65/031/007/0710/0713
543.7+620.193.43

17
16
B

AUTHOR: Sheyko, I. N.; Bukhalova, G. A.; Mal'tsev, V. T.

TITLE: Fusibility diagram of a reciprocal system of sodium and potassium fluorides and fluohafnates 21

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 31, no. 7, 1965, 710-713

TOPIC TAGS: sodium fluohafnate, potassium fluohafnate, sodium fluoride, potassium fluoride, fusibility diagram, fused salt system

ABSTRACT: The system Na, K // F, HfF_7 was studied by a visual polythermal method in dry carbon dioxide. The following eutectics were found: in Na_3F_3 - Na_3HfF_7 at 762C and 22% Na_3F_3, and in K_3F_3 - K_3HfF_7 at 766C and 55.5% K_3F_3. In Na_3HfF_7 - K_3HfF_7, a continuous series of solid solutions with a minimum at 815C and 35% K_3HfF_7 was observed. The crystallization surface of the system Na^+, K^+ // F^-, HfF_7^{3-} was found to consist of three fields of crystallization, those of sodium fluoride, potassium fluoride, and continuous solid solutions of sodium and potassium heptafluohafnates. The system is reciprocal and irreversible. The Na_3F_3 - K_3HfF_7 diagonal section is in the nature of a binary system and divides the com-

Card 1/2

MAL'TSEV, V.T.; BUKHALOVA, G.A.

Reciprocal system consisting of fluorides, chlorides, and hexafluoroaluminates of sodium and potassium. Zhur. neorg. khim. 10 no.6:1464-1470 Je '65. (MIRA 18:6)

BUKHALOVA, G.A.; MAL'TSEV, V.T.

System of fluorides and hexafluoroaluminates of sodium and potassium. Zhur. neorg. khim. 10 no.1:189-193 Ja '65. (MIRA 18:11)

1. Submitted July 18, 1963.

PONOMAREV, V.D., akademik; PANYUSHKIN, V.T., kand.tekhn.nauk; MAL'TSEV, V.S., kand.tekhn.nauk

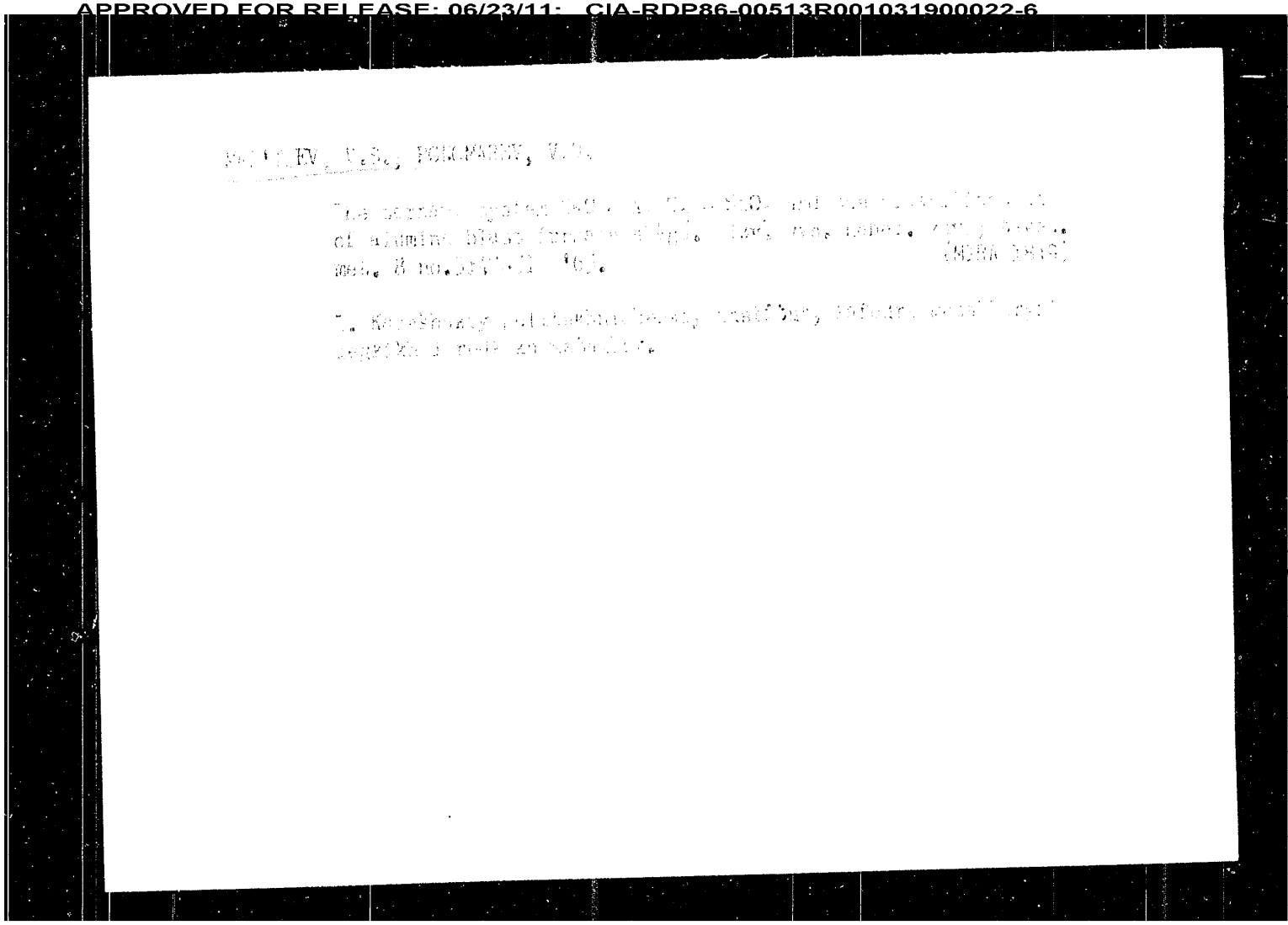
Mechanism of physical and chemical conversions during carbothermic reduction of artificial nepheline. Vest. AN Kazakh. SSR 21 no.7:32-35 Jl '65. (MIRA 18:8)

1. Akademiya nauk Kazakhskoy SSR (for Ponomarev).

MAL'TSEV, V.S.; ARAKELYAN, O.I.; PONOMAREV, V.D.; PANYUSHKIN, V.T.; ISABAYEV, S.M.

Formation of β-Al_2O_3 in the process of carbothermal reduction of sodium aluminate. Izv. AN Kazakh.SSR.Ser.khim.nauk 15 no.3:46-54 Jl-Ag '65. (MIRA 18:11)

1. Submitted December 21, 1964.



[illegible], V.N.; [illegible], V.D.; [illegible], V.[illegible].

Vanadium behavior during the hydrochemical processing of high-alumina blast furnace slags. Izv.vys.uchebn.zav., tsvet.met. 8 no.2:85-88 '65.

[illegible]
November 26, 1964.

MAL'TSEV, V.S.; PONOMAREV, V.D.; PANYUSHKIN, V.T.; TSABAYEV, S.Z.

Data on the mechanism of thermal decomposition and reduction of sodium and potassium hydroaluminates. Trudy Inst. met. i obog. AN Kazakh. SSR 12:136-142 '65. (MIRA 18:10)

ISABAYEV, S.M.; PANYUSHKIN, V.T.; MAL'TSEV, V.S.; BUKETOV, Ye.A.

Aluminothermic reduction of sodium aluminate in vacuum. Trudy Inst. met. i obog. AN Kazakh. SSR 12:131-135 '65.

(MIRA 18:10)

MAL'TSEV, V.S.; PARYUSHKIN, V.T.; POMOMAREV, V.D.

Investigating the corrosibility of alkali aluminates in water.
Trudy Inst. sel'. i obog. AN Uzbekh. SSR 12:125-130 '65.
(MIRA 18:10)

0.48% Na_2O) is obtained when these conditions are maintained. All the products obtained are classified into three groups according to the degree of their reduction. This classification shows that β-Al_2O_3 forms with relative ease during the vacuum carbothermic reduction of sodium aluminate at 1100C, the other conditions being as specified above. Chemical and crystal-optical analyses of the β-Al_2O_3 formed permit the postulation of the following mechanism of sodium aluminate reduction: sodium aluminate $\rightarrow$ β-Al_2O_3 $\longrightarrow$ γ-k-Al_2O_3 $\longrightarrow$ α-Al_2O_3 $\longrightarrow$ Al_4O_0C or Al_4C_3. This is only a tentative representation of the complicated process of this reduction process. Orig. art. has: 5 figures and 1 table.

SUB CODE: 07 / SUBM DATE: 21Dec64 / ORIG REF: 012

L 34095-66 EWP(e)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG/AT/AP[illegible]/JH
ACC NR: AP6008802 SOURCE CODE: UR/0360/65/000/003/0046/0054

AUTHOR: Mal'tsev, V. S.; Arakelyan, O. I.; Ponomarev, V. D.; Panyushkin, V. T.; Isabayev, S. M.

ORG: none

TITLE: Formation of beta-Al_2O_3 during carbothermic reduction of sodium aluminate

SOURCE: AN KazSSR. Izvestiya. Seriya khimicheskikh nauk, no. 3, 1965, 46-54

TOPIC TAGS: alumina, aluminate, carbon, chemical reduction

ABSTRACT: The composition of the phases formed during the vacuum carbothermic reduction of sodium aluminate and the conditions of formation of β-alumina in the products of this reduction were studied. The reaction products were analyzed by chemical and petrographic methods, and in some cases by x-ray structural analysis. The following optimum conditions of the reduction were found: a reaction temperature of 1200C, holding for 2 hr at this temperature, residual pressure of 0.4 – 1.0 mm Hg, excess of reductant (carbon) up to 75% of stoichiometry according to the reaction $Na_2O \cdot Al_2O_3 + C \longrightarrow 2Na + Al_2O_3 + CO$. Practically pure alumina with a small admixture of sodium oxide (up to

Card 1/2

MAL'TSEV, V.S.; PANYUSHKIN, V.T.; ISABAYEV, S.E.; FONOMAREV, V.D.

Thermal reduction of sodium and potassium aluminates in vacuum. Izv. vys. ucheb. zav.; tsvet. met. 7 no.5:70-73 '64.

(MIRA 18:3)

1. Kazakhskiy politekhnicheskiy institut, kafedra metallurgii legkikh i redkikh metallov.

PANYUSHKIN, V.T.; MAL'TSEV, V.S.

Calculating hydrodynamic potentials of aluminum suboxides. Trudy Inst.met.i obog. AN Kazakh.SSR 11:79-82 '64.

(MIRA 18:4)

ABISHEV, D.N.; POMOMARYV, V.P.; MAL'TSEV, V.G.

Solid products of the agglomeration processing of wastes containing blast furnace slags. Trudy Inst.met.i obog. AN Kazakh.SSR 11:73-78 '64. (MIRA 18:4)

ABISHEV, D.N.; PONOMAREV, V.D.; MAL'TSEV, V.S.; SIROKO, I.P.

Formation of sodium and calcium hydrovanadates in leaching pure vanadium trioxide by the hydrochemical method. Trudy Inst.met.i obog. AN Kazakh.SSR 11:67-72 '64. (MIRA 18:4)

L 31860-65

ACCESSION NR: AP5003365

of thermal reduction of sodium and potassium aluminate contain active low-temperature forms of alumina, θ-Al_2O_3 and χ-Al_2O_3, both as separate phases and mixed with sodium (potassium) aluminate and β-alumina. When the aluminates are heated to 1200-1400C, a new phase, α-Al_2O_3, is formed whose amount increases with rising temperature and increasing duration of the experiment. Orig. art. has: 1 figure, 1 table and 2 formulas.

ASSOCIATION: Kafedra metallurgii legkikh i redkikh metallov, Kazakhskiy politekhnicheskiy institut (Light and rare metals metallurgy department, Kazakh polytechnic institute)

SUBMITTED: 26Nov63 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 001

Card 2/2

L 31860-65 EPA(s)-2/EWT(m)/EPR/EWP(t)/EWP(b) Pc-4/Pt-10 IJP(c) JD/JG

ACCESSION NR: AP5003365 S/0149/64/000/006/0070/0073

AUTHOR: Nal'tsev, V. S. ; Panyushkin, V. T.; Isabayev, S. M.; Ponomarev, V. D.

TITLE: Thermal reduction of sodium and potassium aluminates in a vacuum

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1964, 70-73

TOPIC TAGS: sodium aluminate, potassium aluminate, thermal reduction, vacuum reduction, carbon reduction

ABSTRACT: The object of the work was to study the reduction of sodium and potassium aluminate by carbon in a vacuum and to obtain some data on the mechanism of the process. The overall reactions are

$$Na_2OAl_2O_3 + C \rightarrow 2Na + Al_2O_3 + CO$$

$$K_2OAl_2O_3 + C \rightarrow 2K + Al_2O_3 + CO$$

The effect of temperature on the yield of the metal was investigated: the maximum yield of sodium (82%) was reached at 1200C, and the maximum yield of potassium (92-93%), at 1100C. Data from crystal optical analysis and x-ray diffraction studies led to the following conclusion: in addition to β-alumina, the products

Card 1/2

PONOMAREV, V.D., akademik; MAL'TSEV, V.[illegible], kand.tekhn.nauk

Ways of [illegible] aluminum [illegible] in Kazakhstan. Vest. [illegible] [illegible]
SSR 20 no.11:5-9 N '64.

1. Akademiya nauk KazSSR (for Ponomarev).

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001031900022-6

PONOMAREV, V.D., akademik; [illegible], V.S., kand.tekhn.nauk; AKHMETOV, S.F.; [illegible]

Solid products recoverable from hydrochemical processing of blast-furnace slags. Vest. AN Kazakh. SSR 20 no.4:47-53 Ap '64.
(MIRA 17:9)

S/137/60/000/010/007/048
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 10, p. 95, # 23161

AUTHORS: Khazanov, Ye.I., Ratmanov, V.N., Mal'tsev, V.S.

TITLE: On the Problem of Preparing the Charge for Silico-Aluminum Melting

PERIODICAL: Tr. Vost-Sib. fil. AN SSSR, 1959, No. 24, pp. 100 - 105

TEXT: Information is given on results of investigations on the granulation of the sillimanite charge for obtaining Si-Al alloys with different types of reducing agents. The authors studied the effect of granulation conditions, the amount of the binding substance and moisture in the charge, on the size and strength of the granules. The experiments were made on a laboratory dish-granulator with Kyakhta sillimanite concentrate, Г-2 (G-2) grade Al_2O_3, and Cheremkhovo and Novo-Metelkino coals and lignin as reducing agents. Granules of homogeneous composition and size were obtained.

Z.G.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

KHAZANOV, Ye.I.; MAL'TSEV, V.S.

Preparing products rich in titanium from aluminum raw materials of Eastern Siberia. Titan i ego splavy no.2:6-10 '59.
(MIRA 13:6)

1. Vostochno-Sibirskiy filial AN SSSR.
(Siberia, Eastern--Bauxites) (Titanium compounds)

Titanium and [illegible] Alloys (Cont.) [illegible]

Veselago, L.I. [Institute of [illegible]]. [illegible]tion of Bivalent and [illegible] Iron and Ferrous Oxide [illegible]

Topslov, L.I. Spectral Analysis of [illegible] of Titanium [illegible]ide and Impurities by the [illegible] Method [illegible]

Borovskiy, I.B., and S.A. [illegible] [Institute of [illegible], Academy of Sciences USSR]. Apparatus and Methods of [illegible] Determination of Hydrogen in Titanium 10[illegible]

Buyanov, N.V., [illegible], V.K. [illegible], and [illegible] [Central Scientific Research Institute of [illegible]]. Spectral Determination of Hydrogen in Titanium [illegible]4

AVAILABLE: Library of Congress

Card 6/6 [illegible]

Card 5/6

Titanium and Its Alloys. (Cont.)

Berdin, I.P., and V.A. Reznichenko [Institute of Metallurgy, Academy of Sciences USSR]. Investigation of the Principles of Material and Slag Removal in the Smelting of Ilmenite Concentrates

Reznichenko, V.A., and V.I. Shevtsov [Institute of Metallurgy, Academy of Sciences USSR]. Flux-Free Smelting of Ilmenite Concentrate

Berdin, I.P., V.A. Reznichenko, G.I. Shcherbak, V.P. Yershov, and V.M. Luseyev [Institute of Metallurgy, Academy of Sciences USSR, and Yekaterinburg metallurgical UTAN (Institute of Metallurgy, Ural Branch, Academy of Sciences USSR]. Results of Consolidated Labor to Investigate the Application of Air Blast [in the Production] of Niobium Pig Iron

Rudneva, A.V. [Institute of Metallurgy, Academy of Sciences USSR]. Phase Composition of Niobium Slags

Rudneva, A.V., M.S. Model', and L.Ya. Markovskiy [Institute of Metallurgy, Academy of Sciences USSR]. Solid Solutions in High-Titanium Slags

Ageyev, N.V., V.A. Reznichenko, T.E. Ukolova, and M.S. Model' [Institute of

Card 3/6

Titanium and Its Alloys. (Cont.) SOV/3545

while other papers are concerned with the electrolytic production of titanium. Other subjects dealt with are interaction of titanium with water vapor and with hydrogen and the determination of titanium in slags. No personalities are mentioned. References follow each paper.

TABLE OF CONTENTS:

Card 2/6

MAL'TSEV, V. S.

PHASE I BOOK EXPLOITATION SOV/3[illegible]

Akademiya nauk SSSR. Institut metallurgii.

Titan i yego splavy. vyp. II: Metallurgiya titana (Titanium and Its Alloys. No. 2: Metallurgy of Titanium) Moscow, Izd-vo AN SSSR, [illegible] [illegible] p. Errata slip inserted. [illegible] copies printed.

Resp. Ed.: I.P. Bardin, Academician; Ed. of Publishing House: [illegible]; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This book is intended for metallurgists.

COVERAGE: This collection of papers deals with sources of titanium; production of titanium dioxide, metallic titanium, and titanium sheet; slag composition; determination of titanium content in slags, and other related matters. The sources of titanium discussed are the complex sillimanite ores of the Kyakhtinskoye Deposit (Buryatskaya ASSR) and certain aluminum ores of Eastern Siberia. One paper explains the advantages of using ilmenite titanium slags for the production of titanium dioxide by the sulfuric acid method. Production of metallic titanium by thermal reduction processes (hydrogen, magnesium, and carbon reduction) is the subject of several papers.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001031900022-6

MAL'TSEV, V. S., Candidate Tech Sci (diss) -- "Investigation of the reducibility of the basic components of the bauxites of the Tatar deposit of Krasnoyarsk Kray". Irkutsk, 1959. 19 pp (Acad Sci USSR, Inst of Metallurgy im A. A. Baykov, East Siberian Affiliate, Lab of Electrometallurgy), 150 copies (KL, No 22, 1959, 1Б)

KLYACHKO, Yu.A.; SHAPIRO, M.M.; MAL'TSEV, V.S.; MIL'CHEV, V.A.

On the theory of electrochemical phase analysis of alloys.
Zav.lab. 24 no.11:1308-1314 '58. (MIRA 11:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Alloys) (Electrochemical analysis)

MAL'TSEV, V.S.; KHAZANOV, Ye.I.

Studying the reducibility of components of bauxite from the Tatarka deposit. Trudy Vost.-Sib. fil. AN SSSR no.13:242-254 '58. (MIRA 12:12)

1. Vostochno-Sibirskiy filial AN SSSR.
(Tatarka region (Krasnoyarsk Territory)--Bauxite))

SOV/137-59-3-5507

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 62 (USSR)

AUTHORS: Khazanov, Ye. I., Bessonova, A. S., Mal'tsev, V. S.

TITLE: Reduction Smelting of Bauxites of the Tatarskiy Deposit (Vosstanovitel'naya plavka boksitov Tatarskogo mestorozhdeniya)

PERIODICAL: Tr. Vost.-Sib. fil. AN SSSR, Nr 12, pp 137-148

ABSTRACT: Technological flowsheet of the complex treatment of Tatarskiy bauxites was verified by a process reproducing the industrial procedure. Experiments showed that extraction of Al, Fe, and Ti from the bauxites is feasible. As a result of reduction smelting the constituents of the bauxite are concentrated in the pig iron (all the Fe and a part of the silica) and in the slag (the Al_2O_3 and the unreduced portion of the silica). The TiO_2 in the slag attains 90% of the initial content. In the leaching out of the slags with soda-caustic solutions the extraction of Al_2O_3 is as high as 97%. The residues from the leaching, the mud, is easily separated from the solution and can be utilized as building material. By means of hydrometallurgical treatment TiO_2 is concentrated in the mud. The cast iron resulting from the smelting contains small amounts of impurities. V. S.

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MAL'TSEV, V.S.; KHAZANOV, Ye.I.

Effect of titanium dioxide on the solubility of aluminocalcium slags. Izv.Sib.otd. AN SSSR no.9:26-31 '58. (MIRA 11:11)

1. Vostochno-Sibirskiy filial AN SSSR.
(Titanium oxides) (Calcium aluminosillicates)

Mineralogical Composition and Structure (cont.)

pentacalcium trialuminate was discovered in the slag. The character of the optical properties and crystallization forms of perovskite and aluminates of Ca is adduced. The authors indicate that the high contents of silicon dioxide (up to 10%) and Ti dioxide (up to 10%) in the slags with a comparably low amount of alumina (34.4 - 42.7%) brings about their selfdisintegration owing to the transformation of the β -modification of $2CaO \cdot SiO_2$ into the γ modification $2CaO \cdot SiO_2$ upon the cooling of the slags. With a lower silica content (up to 6%) and a higher alumina content (up to 48%) the selfdisintegration of the slags does not occur. The authors draw the conclusion that the absence of silicates of alumina in the slags investigated ensures a high extraction of alumina by leaching them out with caustic soda solutions. Meanwhile TiO_2 in the slags should not exceed 3 - 4%. The authors recommend gravitational concentration of bauxites prior to smelting, as the result of which a minimum content of Ti should be achieved in aluminocalcium silicate slags, which would contribute to a maximum yield of alumina through their leaching.

Vostochno-Sibirskiy filial AN SSSR

1. Slags--Properties 2. Calcium aluminates 3. Titanium oxide--Metallurgical effects 4. Slags--Crystallization

A. R.

Card 2/2

SOV/137-58-9-18446

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 37 (USSR)

AUTHORS: Mal'tsev, V.S., Oleynikova, G.V., Khazanov, Ye.I.

TITLE: Mineralogical Composition and Structure of Alumino-calcium Slags With a High Content of Titanium Oxides (Mineralogicheskiy sostav i struktura alyumokal'tsiyevykh shlakov s povyshennym soderzhaniyem okislov titana)

PERIODICAL: Izv. vost. fil. AN SSSR, 1957, Nr 7, pp 54-59

ABSTRACT: The effect of Ti dioxide on the process of the crystallization and the subsequent hydrochemical treatment of alumino-calcium slags was investigated. Synthetic mixtures were briquetted and sintered in a silit furnace at 1200°C. The sintered briquets obtained were melted in a high-frequency furnace (LG-30) and held at 1500° for one hour. The contents of TiO_2 and SiO_2 in the slags investigated corresponded to the contents of these components in high-titanium bauxites. The adduced table of the chemical composition of the slags investigated shows that the limits of Al_2O_3 content corresponded to 31 - 47%, CaO 47 - 50%, SiO_2 4-10%, and TiO_2 1 - 8%. The presence of perovskite, dicalcium silicate, monocalcium aluminate, and

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ACC NR: AP6032524

supporting blocks and a double-row system of interconnected balancers, resting both on the rigid supports and on pivoting support blocks. In order to increase reliability and supporting capacity, the supports and the supporting blocks have ribs, serving as pivoting axles for all moving parts of the bearing. Balls are placed between the balancers; the contact points of these balls are in a straight line with the balancer, perpendicular to the pivoting axis of the balancer and pass through the axis or below it (see Fig. 1). Orig. art. has: 1 figure.

SUB CODE:/21/ SUBM DATE: 25Jan65/

Card 2/2

ACC NR: AP6032524 (A) SOURCE CODE: UR/0413/66/000/017/0119/0119

INVENTOR: Lokshin, A. L.; Mal'tsev, V. P.; Sundeyev, B. K.

ORG: none

TITLE: Thrust bearing. Class 47, No. 185635 [announced by Kaluga Turbine Plant (Kaluzhskiy turbinyy zavod)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 119

TOPIC TAGS: gas turbine, steam turbine, turbine bearing, turbine design, antifriction bearing, thrust bearing

ABSTRACT: The proposed thrust bearing for turbomachines, such as steam or gas turbines, contains a ring having rigidly fixed supports and pivoting, self-aligning

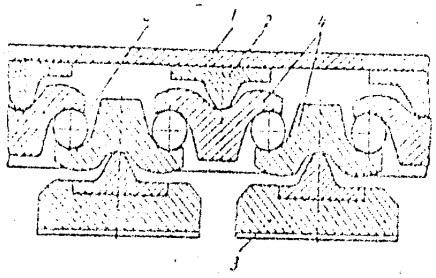

Fig. 1. Thrust bearing

1 - Ring; 2 - supports; 3 - supporting blocks; 4 - balancers; 5 - balls.

Card 1/2 UDC: 621.165+621.438-233.23

MAL'TSEV, V.N.

Experimental study of the possibility of reducing the toxicity of typhoid fever vaccines for irradiated animals. Zhur. mikrobiol., epid. i immun. 42 no.8:88-91 Ag '65. (MIRA 18:9)

L 7883-66 EWT(m)/EWP(j) RM

ACC NR: AP5025013 SOURCE CODE: UR/0286/65/000/016/0079/0079

AUTHORS: Boguslavskiy, D. B.; Borodushkina, Kh. N.; Kupriyanova, O. N.; Mal'tsev, V. N.; Sapronov, V. A.; Chavchich, T. A.

ORG: none

TITLE: A method for the vulcanization of rubbers by alkylphenolformaldehyde resins. Class 39, No. 173921

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 79

TOPIC TAGS: rubber, vulcanizing agent, halogen organic compound, vulcanizate, resin, formaldehyde, vulcanization

ABSTRACT: This Author Certificate presents a method for vulcanizing rubbers by alkylphenolformaldehyde resins in the presence of vulcanizing accelerators—halogen-containing organic substances. To improve the method, the halogen-containing organic compounds are added in the form of halogenated esters of aromatic and aliphatic carboxylic acids.

SUB CODE: 11 / SUBM DATE: 12Apr63

Card 1/1 nw UDC: 678.028.294:678.044:547.29'26

Call Nr: AF 1073605

Aerodynamics (Cont.)

theory of the subsonic flow around arbitrary wing profiles by G. F. Burago. This book contains very few numerical examples but there is a considerable number of analytical (algebraic) problems with solutions clarifying pertinent cases. The number of references, all USSR, has been increased to 85.

AVAILABLE: Library of Congress

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Call Nr: AF 1073605

Aerodynamics (Cont.)

There are indications of some efficient methods for the solution of particular problems developed by USSR researchers. These are: a) The method of S. G. Nuzhin for "construction of the potential flow about an arbitrary airfoil", chapter VII, section 10. For the same purpose, the methods of Th. Theodorsen, Lighthill, and Goldstein are widely used in the U.S.A; b) The method of L. G. Loytsyanskiy for "the determination (calculation) of the laminar boundary layer for curved surfaces", chapter X, section 8. This method is recommended by the authors of this book as more accurate and easier for computing purposes than that of Karman-Pohlhausen. It is also applicable to the symmetrical flow about bodies of revolution (fuselage, etc); c) The method of S. G. Nuzhin for "solution of the integro-differential equation of an airfoil of finite aspect ratio", chapter XI, section 9; d) The method of S. G. Khristianovich for problems of airfoils and wings in subsonic flows, chapter XVIII, section 4; e) The approximate

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Call Nr: Af 1073605

Aerodynamics (Cont.)

COVERAGE: Several sections (IV, 5; V, 6 and 11, XII, 6, and XIII, 4) were not contained in the first edition.

Chapter IV:	Principles of Hydrodynamics of a Perfect Fluid
Section 5:	Momentum equation for steady motion of a perfect fluid
Chapter V:	Principles of Vortex Theory
Section 6:	Pressure distribution inside and outside a plane vortex
Section 11:	Proof of N.Ye. Zhukovskiy's theorem for an arbitrary two-dimensional contour
Chapter XII:	Gas Dynamics
Section 6:	Speed of sound
Chapter XIII:	System of Basic Differential Equations in Gas Dynamics
Section 3:	Limits of the application to air of Bernoulli's equation for incompressible fluids.

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MAL'TSEV V.N.

Call Nr: AF 1073605

AUTHOR: Arzhanikov, N. S., and Mal'tsev, V. N.

TITLE: Aerodynamics (Aerodinamika)

PUB. DATA: Oborongiz, Moscow, 1956, Second Edition, 484 pages, 8,500 copies

ORIG. AGENCY: None

EDITOR: Kotlyar, Ya.M., Candidate of Technical Sciences; Managing Editor: Sokolov, A. I., Engineer; Editor of the Publishing House: Petrova, I. A.; Tech. Ed.: Gladkikh, N.N. Reviewers: Burago, G. F., Doctor of Technical Sciences, Professor, Votyakov, V. D., Candidate of Technical Sciences, Docent, and Shumyatskiy, B.Ya., Candidate of Technical Sciences.

PURPOSE: The book is approved by the Ministry of Higher Education as a textbook for students of advanced courses at aeronautical engineering schools and can also be used by aircraft engineers and researchers. It is based on courses of lectures on Aero- and Gas Dynamics given at the Aircraft Construction Department of the Moscow Institute of Aviation.

Card 1/4

[illegible], V. N.

VAL'TSEV, V. N., and N. S. ARZHANIKOV.

Aerodinamika. Doushchene v kachestve uchebnika dlia aviatsionnykh vuzov. Moskva, Oborongiz, 1952. 480 p., illus., diagrs.
Bibliography: p. 470-473.
Title tr.: Aerodynamics. Approved as a textbook for schools of advanced aeronautical studies.

BCS

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.